

REMARKS

Reconsideration of the above-indicated patent application, as amended, is respectfully requested. The present amendment is responsive to the Non-Final Office Action mailed August 14, 2003. Claims 1-5 had been rejected. Claims 6-10 had been allowed. Applicants thank the Examiner for this indication of allowability. Accordingly, amendments, new claims and supporting remarks are hereby presented that particularly point out and distinctly claim the subject matter that applicant regards as his invention. No new matter has been added.

OBJECTIONS TO DRAWINGS

The Examiner had required a drawing change showing that "the configurable antenna system is rotatably mounted," as recited in claim 2. In response thereto, Applicants submit new Fig. 6 (attached). The new figure depicts a diversity pair of near omni-directional antennas 46 and a diversity pair of internal patch antennas 20 as disclosed in the specification (see page 7, line 10 et seq.). These antenna pairs 46, 20 are shown constructed on the same printed circuit board (see page 6, line 17 inter alia). The circuit board retaining the antenna system is shown being rotatable between vertical and horizontal positions with respect to a wireless access point (see page 5, line 16 et seq.). A detect switch 48 is respectively opened or closed as the antenna system is rotated, thereby automatically deploying either the omni-directional antenna pairs 46 or the patch antenna pairs 20 (see page 7, line 13 et seq.). Thus, it should be clear that new Fig. 6 is well-

CLE 762391.1

supported from the original disclosure and no new matter is added. Entry of this new figure is therefore respectfully requested.

THE INVENTION

The present invention is directed to a configurable antenna system in which a diversity pair of omni-directional antennas are provided along with a diversity pair of patch antennas. The present antenna system is particularly useful with wireless access points of the type used with a wireless local area network (WLAN). The respective antenna pairs are optionally selected by rotating the antenna system with respect to the access point. When rotated to a vertical position, the omni-directional antenna pair is selected. When rotated to a horizontal position, the patch antenna pair is selected. The selection between antennas is made automatically by use of a detect switch, which opens in the vertical position to select the omni-directional diversity pair. The switch closes in the horizontal position to select the patch diversity pair. In this way, the present system offers a configurable antenna package that allows for a single end-product to be deployed in a desired manner by an end-user in the field. In this way, the present system offers greater flexibility and efficiency over previous-type systems.

New claim 11 has been added to recite that the omni-directional and patch diversity antenna pairs are constructed on the same printed circuit board. This limitation points to further advantages such as compactness and improved manufacturing efficiency. New claim 12 has been added to recite that the present diversity antenna is a component

CLE 762391.1

of a wireless access point. The present system as explained above is very different from the prior art at issue, particularly as applied to the claims as presently amended.

THE REJECTIONS UNDER 35 U.S.C. §102

The Examiner had rejected claims 1 and 4-5 under Section 102(b) as being anticipated by Vannatta et al. (U.S. Patent No. 5,649,306). Claims 1, 2 and 4-5 are rejected under Section 102(b) as being anticipated by Shober (U.S. Patent No. 5,649,306). These rejections are respectfully traversed, particularly as applied to the amended claim set.

The Vannatta et al. reference shows a two-way radio communications device, particularly, a cellular telephone. This reference discloses a first housing element 51 movable from an extended position to a closed position (col. 4, line 41, et seq). A first antenna 55, i.e. a half-wave dipole antenna, is retained inside the housing element 51. A second antenna, i.e. a patch antenna 59, is integrated into a battery housing in a location remote from the first antenna 55. A third antenna is a retractable whip antenna 63.

Vannatta et al. subsequently disclose that an antenna 106 (analogous to whip antenna 63) is selectively coupled in diversity with either antennas 112 or 113 (stated to be respectively analogous to dipole antenna 55 and patch antenna 59). Thus, the "diversity" is based on a combination of a whip antenna with either a dipole or a patch. There is thus no disclosure of selection between a diversity pair of omni-directional antennas and a diversity pair of patch antennas, as is now recited in claim 1 as amended.

CLE 762391.1

It is further noted that Vannatta et al also fails to satisfy the requirement of claim 2 that "the diversity antenna system is rotatably mounted," since only one antenna element is rotatably mounted in Vannatta et al, not the entire system as with the presently claimed system. Further to this point, it is clear that Vannatta et al cannot be relied upon to satisfy new claim 11, which recites that both omni-directional and patch diversity antenna pairs are constructed on the same circuit board. Indeed, it is plain that the structure disclosed by Vannatta et al does in fact teach away from the system of claim 11. Still further, Vannatta et al, only has applicability to a radio telephone device. There is no disclosure in this reference to satisfy the requirements of new claim 12 that, "the diversity antenna system is a component a wireless access point." Thus, for at least the above reasons it is respectfully submitted that the present claims 1-5, 11 and 12 patentably distinguish over Vannatta et al. Reconsideration and withdrawal of this grounds of rejection is respectfully requested.

With respect to the Shober reference, Figs. 9 and 10 are cited against claim 1. However, these figures and the attendant discussion at col. 12, lines 57 et seq simply discloses a single omni-directional antenna 1003 that can be switched to a single directional antenna 1004 using a switch 1002. This disclosure is insufficient to satisfy the present requirements of claim 1, i.e. selection between a diversity pair of omni-directional and patch antennas. Thus, it is respectfully submitted that Shober fails to anticipate the presently amended claim 1.

The Examiner also states that Fig. 6 of Shober shows a rotatable mounting. However, this figure and the attendant discussion (col. 12, lines 6-30) simply disclose a type of ceiling mount for deploying this system. It is not clear from this discussion where a rotatable mounting for a diversity antenna system is disclosed, as would apply to claim 2. It is respectfully requested that either the relevant portion of the disclosure be cited or else this grounds of rejection be withdrawn.

In any event, it is also clear that Shober cannot be relied upon to show the limitations of new claim 11, that diversity pairs of omni-directional and patch antennas are formed on the same circuit board. For at least the above reasons, it is respectfully submitted that Shober cannot be relied upon to anticipate claims 1-5, 11 and 12. Reconsideration and withdrawal of this rejections is therefore respectfully requested.

THE REJECTIONS UNDER 35 U.S.C. § 103

The Examiner had rejected claim 3 under Section 103(a) as being unpatentable over Shober in view of Hori et al (U.S. Patent No. 5,594,455). This rejection is respectfully traversed, particularly as applied to the amended claim set.

The Examiner brings in Hori et al to supply a "TM10 mode patch antenna," a specific element not disclosed by Shober as applied to claim 3. However, it is noted that Hori et al fails to supply disclosure that would shore up the deficiencies of Shober as applied to claim 1. Thus, the combination would fail to meet the requirements of the base

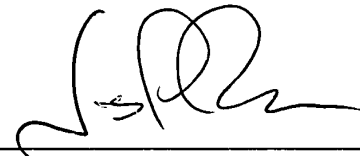
claim. For at least this reason, it is respectfully submitted that claim 3 patentably distinguishes over this combination.

In view of the foregoing it is respectfully submitted that the present application distinguishes over the prior art, and a notice to that effect is earnestly solicited. If the Examiner believes there are any further matters which need to be discussed in order to expedite the prosecution of the present application, the Examiner is invited to contact the undersigned.

If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0902, referencing our Docket No. 72255/10941.

Respectfully submitted,

TUCKER ELLIS & WEST LLP



Jay P. Ryan
Agent for Applicant
(Registration No. 37,064)
1150 Huntington Building
925 Euclid Avenue
Cleveland, Ohio 44115-1475
Customer No. 23380
(216) 696-4396 (phone)
(216) 592-5009 (fax)